

**National Geospatial Advisory Committee Webinar
Meeting December 6-7, 2022
Minutes**

The National Geospatial Advisory Committee (NGAC) held a public meeting on December 6-7, 2022 from 1:00 p.m. to 5:00 p.m. The meeting was held via webinar and teleconference. In accordance with the requirements of the Federal Advisory Committee Act, the meeting was open to the public.

NGAC members present:

Gary Thompson, NGAC Chair
Roberta Lenczowski, NGAC Vice Chair
Nadine Alameh
Clio Andris
Frank Avila
Byron Bluehorse
Maggie Cawley
Garet Couch
Lynn Dupont
Bill Haneberg
Tony LaVoi
Mark Meade
Siva Ravada
Vasit Sagan
Cy Smith
Kathleen Stewart
Tim Trainor

Josh Delmonico, Acting Executive Director of the Federal Geographic Data Committee and Designated Federal Officer (DFO) for the NGAC, and John Mahoney, Alternate DFO, were also in attendance.

NGAC Members not in attendance:

Chad Baker
Jack Dangermond

Other Attendees:

Qassim Abdullah (Woolpert, Inc.), Michael Bevis (Ohio State University), Dierdre Bevington-Attardi (Census), Melanie Bick (NGA), Deirdre Bishop (Census), Gale Blackmer (State of Pennsylvania), Juliana Blackwell (National Geodetic Survey), John Byrd (National Society of Professional Surveyors), Emily Carlson (Census), Julie Carter (FGDC Support), Jay Corum (USDA/OIG), Joshua Coutts (Census), Pat Cummins (Esri), Virginia Dentler (NOAA), Richard Dreher (USDA Forest Service), Libby DuBan (FGDC), Erin Dudley (State Department), Nzinga Dyson (Lewis-Burke Associates), Erik Eucker (Universal Service Administrative Company), Ben Evans (NOAA), Erin Fashoway (Montana State Library), Lindsey Gee (Ocean Exploration Trust), Douglas Geverdt (Department of Education), Gary Gold (DOI), Briana Hillstrom (NOAA), Vince Hurley (Planet Labs), Jim Irvine (ArdentMC), Nathan Jones (Census), Kristen Lease (GSA), Steve Lewis (USDOT), Lynda Liptrap (Census), Julia Lopez (Census), Vicki Lukas (USGS), Dave

Maune (Dewberry), Lynne Mersfelder-Lewis (NOAA), Edward Obrien (Green International Affiliates, Inc.), Mark Reichardt (OGC Emeritus), Paul Riley (Census), Dan Roman (National Geodetic Survey), Amy Rose (Oak Ridge National Laboratory), Linda Rowan (Congressional Research Service), Ed Saade (Fugro), Jill Saligoe-Simmel (Esri), Shelby Sencindiver (FGDC Support), Vaishal Sheth (FGDC Support), Tim Stryker (USGS), Julie Thomas (University of California San Diego), Mike Tischler (USGS), Tanya Trujillo (DOI), Kim Valentine (NOAA), Elliott Violin (OneZero Solutions), Ed Wells (URISA Emeritus)

Tuesday, December 6, 2022 NGAC Public Meeting:

Welcome & Brief Introductions:

NGAC Chair Gary Thompson called the meeting to order at 1:00 p.m. and welcomed members and public attendees. Member introductions were made. The Chair introduced Roberta Lenczowski, the NGAC Vice Chair. An overview of the agenda was provided.

Review and Adoption of Minutes from September NGAC meeting:

The draft minutes of the September 2022 NGAC meeting were reviewed, and the Chair called for approval.

DECISION: The NGAC adopted the minutes of the September 7-8, 2022 NGAC meeting.

Leadership Dialogue:

Tanya Trujillo (DOI), Assistant Secretary for Water and Science at the Department of the Interior (DOI), provided an update on FGDC and Administration activities. Highlights included:

- Feedback from the NGAC on FGDC activities and National Spatial Data Infrastructure (NSDI) requirements is appreciated and welcomed.
- Ms. Trujillo represented DOI at the United Nations Conference of the Parties to the United Nations Framework Convention on Climate Change (COP27), where themes discussed included geospatial data and Biodiversity management.
- This year marked the 50th anniversary of Landsat.
- During the 2022 Pecora Conference, the anniversary of Landsat was celebrated, and recognition was given to awardees and beneficiaries.

Ms. Trujillo expressed the FGDC's appreciation for the dedication and expertise of the NGAC members.

FGDC Overview:

Josh Delmonico (FGDC) provided a briefing on current and upcoming FGDC activities. Highlights included:

- The FGDC's current activities include the Climate Executive Order, Geospatial Data Act (GDA) implementation, OMB Circular A-16, coordination with the FGDC Steering Committee and Executive Committee, NGAC appointments, the 2023 NGAC schedule, and exploring the incorporation of Integrated Geospatial Information Framework (IGIF) into the 2024 NSDI Strategic Plan.
- FGDC is working to improve the efficiency and effectiveness of GDA reporting and is preparing the 2023 GDA Report to Congress.
- The NGAC is actively participating in the FGDC's FY 2022 GDA reporting cycle.

- FGDC continues to collaborate with Coalition of Geospatial Organizations (COGO) on their assessment of the NSDI.
- The FGDC Executive Committee will coordinate the implementation of OMB Circular A-16 when it is finalized and released to the public.
- The FGDC Steering Committee approved 8 changes to 5 NGDA themes earlier this fall.
- In April 2023, several NGAC appointments will expire. The next set of appointments to the NGAC will also be finalized in April.
- The current NSDI strategic plan will expire in 2024. FGDC is initiating a process to develop a new NSDI strategy. The NGAC will play an important role in the process.
- FGDC anticipates that in-person NGAC meetings will resume in 2023.

ACTION: The next round of appointments to the NGAC is expected to be completed by April 2023. FGDC will issue a call for nominations later in 2023 for the 2024 round of appointments.

ACTION: FGDC staff will keep NGAC members apprised on the status of the revisions to Office of Management and Budget (OMB) Circular A-16.

Integrated Geospatial Information Framework (IGIF) Discussion:

Deirdre Bishop (Census) led a session on the Integrated Geospatial Information Framework (IGIF) and the next generation of the National Spatial Data Infrastructure. Highlights included:

- The 2030 Agenda for Sustainable Development establishes 17 Sustainable Development Goals (SDGs) and 169 targets.
- The IGIF helps countries geo-integrate in three (3) parts: an overarching strategic framework, the implementation guide, and country level action plans.
- The IGIF has nine (9) strategic pathways.
- There are opportunities for the U.S. to strengthen its geospatial management by incorporating the additional four (4) pathways: financial, innovation, capacity and education, and communication and engagement.
 - Integrating these four (4) pathways would bring a more advanced approach to geospatial information management for the U.S.
- UNGGIM member states were approved in 2015, and since then the number of member countries/states has grown to over 40.
- A significant challenge is fostering engagement of other partners (state, local, tribal, and private sector) at a national level. There is often not enough buy-in to the pathways, which would better solidify engagement over time.
- A program like US 3D Elevation Program (3DEP) could be a model to assist developing countries in building capacity.

ACTION: FGDC is beginning planning for the next version of the National Spatial Data Infrastructure (NSDI) strategic plan, which will succeed the current 2021-2024 NSDI strategic plan. FGDC, in collaboration with partners, will consider utilizing elements of the Integrated Geospatial Information Framework in the development of the NSDI strategic plan. FGDC staff will keep NGAC members apprised on activities related to the NSDI strategic plan.

Geospatial Excellence and Innovation Subcommittee:

Vasit Sagan and Siva Ravada provided an update on Geospatial Excellence and Innovation Subcommittee activities. They also introduced a draft NGAC resolution on the issue of U.S. Geodesy capabilities.

Highlights of the presentation included the following:

- Dr. Sagan and Dr. Ravada provided a brief summary of the previous NGAC sessions hosted by the subcommittee, which dealt with the issues of datum modernization and U.S. geodesy capabilities.
- There is a need for greater understanding of the importance of preparing for the modernized National Spatial Reference System (NSRS) system.
- The decline of U.S. Geodetic academic programs and resulting shortage of practicing geodesists threatens U.S. international technological competitiveness in Earth and space science, affecting U.S. economic health and security.
- Dr. Sagan and Dr. Ravada also discussed a draft NGAC resolution on the geodesy issue, which recommended that this serious national challenge be addressed immediately through an ambitious program of educational support, research funding, and government agency action.
- The NGAC members discussed the proposed resolution and made several suggestions for edits and modifications. The subcommittee members agreed to update the document to address the comments and provide a revised version for consideration during the second day of the meeting.
- Dr. Sagan and Dr. Ravada also noted that the subcommittee is planning a session on Artificial Intelligence (AI) and Machine Learning (ML) during an upcoming meeting of the NGAC. The subcommittee also asked for suggestions from NGAC members on additional topics for future sessions.

ACTION: The Geospatial Excellence and Innovation Subcommittee requests feedback from NGAC members on identification and prioritization of the subcommittee's next set of study areas. NGAC members are asked to send suggestions to Dr. Vasit Sagan and Dr. Siva Ravada by December 30.

GDA Reporting Subcommittee:

Mark Meade and John Mahoney provided a report on GDA Reporting Subcommittee activities.

Highlights included:

- The comments NGAC has provided over the past two years on the GDA annual reports have been very helpful and have been utilized by the FGDC to improve the subsequent reports.
- FGDC has reviewed the NGAC comments and has compiled responses to each of the comments. FGDC has shared these responses with the subcommittee and has discussed them with the subcommittee members.
- For the FY 2022 reports, FGDC is addressing the following points:
 - Agencies are being asked to highlight key achievements of their agency.
 - Agencies have been working to comply with the biennial GDA Inspector General audits. The results of the audits may impact the future GDA reports.
 - FGDC is developing a template for the Lead Covered Agencies to develop strategic plans for the NGDA data themes. These strategic plans will influence the future annual reports for the NGDA themes.

- FGDC will be submitting its biennial GDA report to Congress in mid-2023. NGAC's comments will be included in the report.
- The subcommittee's review of the annual report is scheduled to begin on February 27, 2023, and the comments will be considered and adopted at the April 2023 NGAC meeting.
- The Subcommittee is complying with requirements in the GDA but will also consider the value added by the reporting process as compared to the reporting burden on agencies.
- The subcommittee will also consider the GDA reporting dashboards as part of its review.

ACTION: FGDC staff will provide the draft FY 2023 GDA Annual Report Summary to the GDA Reporting Subcommittee for review and comment by February 27, 2023. The subcommittee's draft comments will be provided to the full NGAC by April 7, 2023 for review and approval.

ACTION: The subcommittee will begin work in early 2023 on its Phase 2 task, to conduct an assessment of GDA reporting requirements and products looking for enhancement opportunities.

GDA Implementation Subcommittee:

Cy Smith and Maggie Cawley provided a report on the activities of the GDA Implementation Subcommittee. Highlights included:

- The Subcommittee is working on the GDA assessment report that will be incorporated into the 2023 GDA Report to Congress.
- The report will include a high-level assessment of anticipated GDA outcomes, as well as a set of recommendations to improve the implementation of the GDA.
- The Subcommittee is investigating the potential of local and regional partnerships, though conflicting funding cycles can be a challenge.
- The GDA defines the FGDC's scope of responsibilities but does not specifically identify outcomes.
- The Subcommittee should consider how progress is made for the use case of data as NSDI accessibility on broader outcomes.
- Metadata needs to be built over time to enable findability; it must also be standardized.
- NGAC should consider data integration, standards integration, and systems integration.
- An important use case for data is in preparing for national hazards and threats; cross-sector partnerships are vital to this work.

ACTION: The GDA Implementation Subcommittee will continue developing draft NGAC inputs for the 2023 FGDC GDA Report to Congress. The Subcommittee's draft paper will be provided to the full NGAC by April 7, 2023 for review and approval.

ACTION: During the next phase of the GDA Implementation Subcommittee's activities, the group will focus on completing a more detailed GDA implementation review.

Lightning Talks:

Gary Thompson gave a brief presentation on the topic of the North Carolina Advisory Flood Data Viewer for Public Safety. Highlights included:

- Hurricane Florence demonstrated that North Carolina had many impacted flooded areas that had never been studied or data mapped.

- In response, North Carolina used LiDAR and other data from flood plain mapping to create an advisory flood data viewer allowing local government agencies, and the public to see possible flood impacts from future storms.
 - This is a non-regulatory data viewer to assist in the spread of knowledge and information to prepare for another event.
 - The view shows flood buffers, buildings, and other structures, allowing the user to see how these would react to each event type and the potential damages they would sustain.
 - Users can produce reports based on their selections to show information on events and elevation.

Adjourn

Mr. Thompson made closing remarks and provided an overview of the Day 2 agenda.

Wednesday, December 7, 2022

NGAC Vice-Chair Roberta Lenczowski called the meeting to order at 1:00 p.m. and welcomed members and public attendees and provided an overview of the day's agenda.

NGAC Geodesy Resolution Discussion:

Roberta Lenczowski and Vasit Sagan briefed the committee on the changes to the NGAC geodesy resolution as discussed during the first day of the meeting. Following discussion of the revised resolution, the NGAC agreed on the following action:

DECISION: The NGAC adopted a resolution regarding U.S. Geodesy capabilities. The resolution is posted on the NGAC web page at: <https://www.fgdc.gov/ngac/meetings/december-2022/ngac-geodesy-resolution-12-7-2022-v1.pdf>.

Office of Management and Budget (OMB) Circular A-16 Discussion:

Libby DuBan (FGDC) and Josh Delmonico (FGDC) provided an update on the revision to OMB Circular A-16. The goals of the A-16 revision are to provide forward thinking guidance, incorporate and clarify GDA requirements, and to better align geospatial activities with the broader Federal data management enterprise.

Previous versions of Circular A-16 were released before the GDA was enacted. The new revision will integrate GDA and Federal data management requirements and clarify the roles of GDA covered agencies and other FGDC member agencies.

FGDC provided a draft version of Circular A-16 for review and comment to the FGDC agencies and NGAC members in October 2022. FGDC received over 350 comments. Key comment themes included the following:

- Scope and authority of Senior Agency Officials for Geospatial Information (SAOGI)
- Clarification of FGDC members and their roles
- Budget submission requirements
- GeoPlatform and metadata
- Definitions, including geospatial data vs. geo-enabled data
- Clarification of international roles

The revised OMB Circular A-16 has been sent to OMB for their internal review.

- Weekly meetings with OMB have taken place to review comments and finalize the draft.
- OMB hopes to complete the revision in early 2023 and is considering a public review period for the revised draft Circular.

Public-Private Partnerships (P3) Discussion:

Gary Thompson facilitated a panel discussion with the NOAA Hydrographic Services Review Panel (HSRP) members on the topic of P3 approaches. HSRP Panelists included Dr. Qassim Abdullah (Woolpert, Inc.), Mr. Lindsey Gee (Ocean Exploration Trust), Dr. Dave Maune (Dewberry), and Mr. Ed Saade (Fugro). The following are highlights from the panel discussion:

- In 2021, NGAC released a recommendations paper describing different types of partnerships, how they work, and their success factors. The paper also included a definition of P3s.
- CDR Briana Hillstrom (NOAA) discussed how there are currently several authorities in place at

NOAA with regards to hydrographic services, and described how Federal agencies can partner within the scope of those authorities.

- There are existing P3s in Hydrographic Services, which two (2) of the most notable being the Brennen Matching Fund and the External Data Source Data Program.
- The NOAA Technology Partnership Office assists in identifying the best vehicles for partnerships and in pushing forward new ideas.
- Dr. Abdullah stressed that P3s are a win for all involved, providing opportunities that would not otherwise exist outside the P3 environment.
 - P3s provide access to the resources in both sectors and also help to build trust between public and private entities.
- Mr. Saade provided a definition of P3s; described how P3s can be successful in the federal government; and discussed the benefits of and barriers to P3s.
 - The challenges of P3s may include a lack of control due to agreements, as well as the risk of clashing goals and visions.
 - Expanding partnerships to academia, as well as the private sector, can be extremely valuable for public organizations.
 - As P3s grow domestically, global partnerships should also be considered.
- Dr. Maune provided examples of how P3 can be successful, including examples on National Strategy for Ocean Mapping, Exploration, and Characterization (NOMECE) and Alaskan Coastal Mapping.
 - P3s in NOMECE and Alaskan Coastal Mapping were informal, as no entity signed formal agreements.
- Mr. Gee reported that establishing a clear P3 definition and criteria is important, as partnerships often differ among contracts.
 - Some partnerships can be built solely on trust, with no money involved.
 - Industry provides stronger support to the government when there are efficient partnerships in place.
- Other points discussed included the following:
 - Contracting vehicles for Hydrography Services Review Panel (HSRP) and other Office of Coast Survey (OCS) offices can be somewhat limiting due to the bounds of agreements; therefore, there may be a need to revisit the usage of those vehicles.
 - It is important to maximize data and minimize mobilization and de-mobilization efforts.
 - P3s require flexibility and creativity as processes and relationships change over time.
 - P3s are structured to build trust and transparency in partnerships.
 - The Commonwealth Data Trust in Virginia is a good example of partnerships working to provide data access.
 - It is operated by the Virginia Innovation Partnership Corporation, a quasi-public organization.
 - P3s could assist in providing data; a private sector partner could take the risk to provide NSDI data access to the public sector free of charge but charge other private organizations a fee for access.
 - While P3s can vary in approach, it is a best practice to establish a Memorandum of Understanding (MOU) or agreement; then have private sector company create the data

rather than the public sector.

- If this approach is taken, then the private organization would have the ability and right to add value or sell that data while the government and the public would retain access.

ACTION: FGDC staff will distribute a summary of the dialogue among NGAC and NOAA Hydrographic Services Review Panel (HSRP) members regarding Public-Private Partnerships.

Public Comment Period:

An opportunity was provided for public comment. No public comments were made.

Landsat Advisory Group (LAG) Subcommittee Discussion:

Roberta Lenczowski provided an update on LAG Subcommittee activities. Highlights included:

- The LAG’s bylaws will be updated, with new members to be added in 2023.
- The Pecora 2022 Conference briefing on 50th anniversary of Landsat’s launch included significant discussion on the usage of the cloud.
 - The conference emphasized that the Landsat “free and open” policy should be maintained and protected.
- In December 2022, the LAG invited the Earth Resources Observation and Science (EROS) Data Center team to give a briefing on the user metrics of Landsat and the usage of the cloud.
 - In this meeting, the LAG and the EROS team discussed how the cloud has caused an exponential increase in usage.

Tim Stryker (USGS) provided updates on the Landsat Program. Highlights included:

- Landsat Collection 2 is ready in the Amazon Cloud.
- The Landsat Next mission concept has a target date of 2030.
- The future products that will be requested from USGS must be considered, as well as the flexibility and calibration data for non-USGS products that will be needed in the future.
- A standards process should be identified, as well as how Landsat will contribute to the standards process.
- There are lessons to be learned from other organizations regarding metrics on cloud-based tools.

ACTION: The LAG Subcommittee will continue working on Task 1 from the 2022 LAG guidance, addressing “Ideas for National Land Imaging (NLI) ‘Next’ Products.”

3DEP Subcommittee Discussion:

Gary Thompson and Gale Blackmer provided an update on 3DEP Subcommittee activities. Highlights included:

- The 3DEP Subcommittee has developed a draft outline of its initial assessment report.
 - The Trends and Developments Work Group has drafted a section of the report, which will address how 3DEP has influenced industry, the trends in data use, acquisition and processing, and dissemination of information.

- The Program Management Work Group’s section of the draft report discusses the effectiveness of 3DEP and provides information about 3DEP management activities.

Mike Tischler (USGS) provided an update on the 3DEP Program. Highlights included:

- The 3D Nation Elevation Requirements and Benefits Study has been completed.
 - The Future Annual Benefits included a total reported benefit for all geographies.
- The Inland Bathymetric Federal Workshop ran concurrently with the September 2022 NGAC quarterly meeting, and a briefing was provided to the FGDC on the results of the workshop.
- Innovative partnerships have been the core of 3DEP; and they have been effective.
- 3DEP is primarily focused on acquisition, maintaining high-quality data, and making data accessible.
 - It is important to consider how data is delivered to the user.
 - Knowledge-based technology, such as Amazon Web Services (AWS) metrics and demographics, may be very helpful.

ACTION: The 3DEP Subcommittee will continue developing the first report assessing the 3DEP, as required under the National Landslide Preparedness Act (NLPA). The Subcommittee will develop a draft version of the report prior to the April 2023 NGAC meeting. The target date for completion of the report is July 5, 2023.

NGAC Round-Robin Discussion:

The NGAC members discussed observations, takeaways, and possible future study topics. Highlights included:

- Important issues for the NGAC to consider include the IGIF’s Strategic Pathways regarding education and capacity, the Geodesy Crisis, and partnerships.
- The NGAC should review recommendations for follow-up opportunities to move the NSDI forward.
- NGAC should consider how federal organizations can better coordinate with non-federal partners and utilize P3 best practices.
- Members expressed support for in-person NGAC meetings; noting that they can be more productive and help enable spontaneous and innovative discussions and collaboration.
- The NGAC should consider identifying, documenting, and collecting use cases to support the definition of outcomes for GDA implementation.
- The NGAC eagerly anticipates in the next version of Circular A-16.
- The NGAC was pleased to hear that the thermal data resolution will be higher in Landsat Next.
- More discussion is needed surrounding the Geodesy skills gap; the U.S. needs to address the Geodesy crisis.
 - The discipline of cartography in colleges is declining and being merged into other disciplines; the geospatial community should promote cartography as a core discipline.
- The NGAC should consider what next steps are required to promote U.S. adoption of IGIF approaches. P3s should be included in the IGIF’s Partnership Strategic Pathways.
- Additional suggestions for possible NGAC study topics included the following:
 - Best practices for the distribution of data

- Opportunities to utilize infrastructure funding for geospatial activities
- Growing Geodesy capabilities through staff development, workforce development, and pathways and education for practitioners
- The IT infrastructure needed to enable discovery, access, and use of NSDI data
- The National Secure Data Service concept
- Additional focus on case studies to demonstrate the power of geospatial science, the usage of the data, the impact of real-world applications, and developing a library to document use cases for data
- Workforce development to promote geospatial careers in the government and private sector;
- Report on engagements with other senior leaders in other agencies and departments from the FGDC Chair
- Hosting roundtables with leaders from key agencies
- A feasibility study on creating a National Center for Geospatial Science
- Consider additional collaboration with HSRP and other advisory committees

Next Meeting:

The next meeting of the NGAC is scheduled for April 11-12, 2023. Additional information about the meeting will be provided soon.

Adjourn:

Ms. Lenczowski made closing remarks and adjourned the meeting.

Certification

I hereby certify that, to the best of my knowledge, the foregoing minutes are accurate and complete.

Mr. Gary Thompson, Chair, National Geospatial Advisory Committee
 Mr. Josh Delmonico, Acting Designated Federal Officer, National Geospatial Advisory Committee
 Mr. John Mahoney, Alt. Designated Federal Officer, National Geospatial Advisory Committee

These minutes will be formally considered by the Committee at its next meeting, and any corrections or notations will be incorporated in the minutes of that meeting.

Note – these minutes were approved by the NGAC on April 11, 2023

Summary of Presentations and Handouts

The following is a list of the presentations and handouts from the meeting. These meeting materials are posted along with the minutes at: <https://www.fgdc.gov/ngac/meetings/december-2022/index.html>

FGDC Update

- FGDC Update

Integrated Geospatial Information Framework (IGIF) Discussion

- Integrated Geospatial Information Framework Overview

Geospatial Excellence and Innovation Subcommittee

- Geospatial Excellence and Innovation Subcommittee Report
- NGAC Resolution on Geodesy

GDA Reporting Subcommittee

- GDA Reporting Subcommittee Report

GDA Implementation Subcommittee

- GDA Implementation Subcommittee Report

Lightning Talk

- NC Advisory Flood Data Viewer for Public Safety - Thompson

OMB Circular A-16

- Revisions to OMB Circular A-16 Presentation

Public-Private Partnerships (P3) – NOAA Hydrographic Services Review Panel Discussion

- NGAC-HSRP Public Private Partnerships Session Overview
- Public Private Partnerships in Hydrographic Services – Hillstrom
- Public Private Partnerships in Private Industry – Abdullah
- Public Private Partnerships – Maune

Landsat Advisory Group

- Landsat Advisory Group Subcommittee Report
- USGS National Land Imaging Program Update

3DEP Subcommittee

- 3DEP Subcommittee Report
- USGS 3DEP Program Update